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REMARKS

This is a full and timely response to the non-final Office Action mailed 03/11/2004 (Paper No. 3). Reconsideration of the application in light of the above amendments and the following remarks is respectfully requested.

Applicant acknowledges and appreciates the Examiner's finding that claims 10-14 are allowable. The Examiner objects to claims 3-5 as being dependent upon a rejected base claim, but states that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, as explained herein, applicant respectfully submits that the base claim (claim 1) as currently amended is allowable. Hence, because claims 3-5 depend either directly or indirectly from independent claim 1, they should also be allowable. Applicants respectfully request acknowledgement of the same.

By the forgoing amendment, claims 1 and 9 have been amended to correct typographical errors. No claims have been added or cancelled. Thus, claims 1-20 are currently pending for the Examiner's consideration.

In the outstanding Office Action, the Examiner rejects claims 1, 2, 6-9, and 15-17 under 35 U.S.C. § 103(a) as being unpatentable over Weijand et al. #6125300 ("Weijand") in view of Nebrigic #6304467 (Nebrigic). The Examiner rejects claims 18-20 under 35 U.S.C. § 103(a) as being unpatentable over Weijand in view of Nebrigic and further in view of Wold #6094597 (Wold). For at least the following reasons, these rejections are respectfully traversed.

Claim 1 recites:

An improved switching regulator for an implantable device, wherein the switching regulator includes control circuitry, and wherein the control circuitry provides at least one control parameter for the switching regulator, the improvement comprising:

a capacitor divider comprising at least two capacitors, and
a divided voltage, wherein the divided voltage is the voltage
between two of the at least two capacitors;

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wherein the control circuitry provides at least one control parameter for the switching regulator based on the divided voltage.
(emphasis added).

As described in the present specification, the claimed switching regulator includes control circuitry that provides at least one control parameter for the switching regulator based on a claimed divided voltage. The divided voltage is the voltage between two of the at least two capacitors. (See Applicant specification, paragraph 29). The claimed capacitor divider provides the claimed divided voltage.

In contrast, Weijand in view of Nebragic fails to teach or suggest a switching regulator for an implantable device including "control circuitry [that] provides at least one control parameter for the switching regulator based on [a] divided voltage." Rather, Nebragic teaches a charge pump power converter with a controller having a fly capacitor C_f that is discharged into a load capacitor C_l when an output voltage V_{out} drops below a reference voltage V_{ref} . (Nebragic, col. 5, lines 27-30). In other words, Nebragic teaches that a comparison of V_{out} and V_{ref} controls the charge pump power converter. However, V_{out} is the output voltage *at the load device* and is *not* a voltage between two capacitors (see Nebragic, Fig. 3). Hence, Nebragic does not teach or suggest controlling the switching regulator with a control parameter based on a divided voltage that is provided by a capacitor divider.

Thus, Weijand in view of Nebragic clearly fails to teach or suggest a switching regulator for an implantable device including "control circuitry [that] provides at least one control parameter for the switching regulator based on [a] divided voltage" as recited in claim 1. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). Therefore, this combination of prior art falls short of applicant's invention and the combination claimed as a whole.

Further, it is respectfully submitted that, per MPEP 2143.01 (emphasis in original):

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[the] fact that references can be combined or modified is not sufficient to establish *prima facie* obviousness. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)...(...Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.).

The prior art does not suggest the desirability of the modifications that would be required to render the subject claims obvious. In establishing *prima facie* obviousness, the prior art must suggest the desirability of the claimed combination as a whole, as cautioned in MPEP 2141.02 (emphasis in original):

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983).

There is no teaching or suggestion in either of the references, or in the prior art as a whole, that would lead one with ordinary skill in the art to replace the voltage regulator (43) in Weijand et al's device with the power converter taught in Nebrlgc. "The Commissioner bears the burden of *showing* that such knowledge provided some teaching, suggestion, or motivation to make the particular combination that was made by the applicant." *In re Raynes* 28 USPQ2d 1630, 1632 (Fed. Cir. 1993) (citations omitted; emphasis added). Thus, applicant submits that the Examiner's motivation to modify the references to arrive at the presently claimed invention derives from hindsight based on applicant's disclosure, as no "showing" has been made that the prior art suggests the desirability of the claimed combination and this interpretation of the knowledge in the art could be made only by hindsight. Thus, applicant respectfully

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asserts based on the foregoing response that claim 1, as amended to correct a typographical error, is in condition for allowance. Acknowledgement of the same is earnestly solicited.

Claims 2 and 6-9 also stand rejected as being obvious over Weijand et al. in view of Nebrigg. Since such claims depend directly or indirectly from independent claim 1 (allowable based on the aforementioned arguments) and further limit such claim from which they variously depend, claims 2 and 6-9, should also be allowable. Applicants respectfully request acknowledgement of the same.

Next, claims 15-17 are also rejected in the outstanding Office Action under 35 U.S.C. § 103(a) as being unpatentable over Weijand et al. in view of Nebrigg. Claim 15 recites:

An improved switching regulator for an implantable device, wherein the switching regulator includes a duty cycle, the improvement comprising:
a capacitor divider;
a divided voltage between at least two capacitors of the capacitor divider; and
two or more selectable duty cycles wherein the duty cycle is selectable from the two or more selectable duty cycles based on the divided voltage.

(emphasis added).

Applicant reiterates the remarks made above in connection to the 35 U.S.C. 103(a) rejection of claim 1, as those remarks are equally relevant to the present rejection. In addition, the claimed switching regulator of claim 15 includes a duty cycle that may be selected from two or more selectable duty cycles based on a claimed divided voltage. The claimed capacitor divider provides the claimed divided voltage.

In contrast, Weijand in view of Nebrigg fails to teach or suggest a switching regulator for an implantable device including a duty cycle that is "selectable from the two or more selectable duty cycles based on the divided voltage." For at least these reasons, Weijand in view of Nebrigg fails to teach or suggest some or all of the claim limitations of claim 15. Hence, applicant respectfully asserts based on the foregoing response that claim 15 is not obvious in light of Weijand and Nebrigg and that claim 15

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is in condition for allowance. Likewise, claims 16-17 which depend directly or indirectly from independent claim 15 (allowable based on the aforementioned arguments) should also be allowable. Acknowledgement of the same is earnestly solicited.

Claims 18-20 are rejected in the outstanding Office Action under 35 U.S.C. § 103(a) as being unpatentable over Weijand in view of Nebrigic and further in view of Wold. In view of the remarks below, such alleged obviousness is respectfully traversed.

Claim 18 recites:

A method to efficiently operate a switching regulator, comprising:
providing a voltage input to a switching inductor;
providing a switched path from the switching inductor to ground;
providing a second path from the switching inductor to a storage device;
measuring the voltage level of the storage device using a capacitor divider; and
controlling the switching regulator based on the voltage level.
(emphasis added).

Applicant reiterates the remarks made above in connection to the 35 U.S.C. 103(a) rejection of claim 1, as those remarks are equally relevant to the present rejection. In addition, the claimed method of operating a switching regulator of claim 18 includes providing a voltage input to a switching inductor, providing a switched path from the switching inductor to ground, and providing a second path from the switching inductor to a storage device.

In contrast, Wold teaches a high voltage step-up transformer that can be used in an implantable cardioverter-defibrillator. (Wold, col. 8, lines 34-64). Applicant respectfully submits that Wold does *not* teach or suggest a switching inductor that can be used in a switching regulator. Furthermore, Wold clearly does not teach or suggest "providing a switched path from the switching inductor to ground" and/or "providing a second path from the switching inductor to a storage device." For at least these reasons, Weijand in view of Nebrigic and Wold fails to teach or suggest some or all of

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the claim limitations of claim 18 and therefore does not establish a prima facie case of obviousness.

Next, there is no teaching or suggestion in Weijand, Nebragic, or Wold, or in the prior art as a whole, that would lead one with ordinary skill in the art to first replace the energy source 12 in Nebragic's device with the step-up transformer taught in Wold, and then replace the voltage regulator (43) in Weijand et al's device with the power converter taught in Nebragic. "The Commissioner bears the burden of *showing* that such knowledge provided some teaching, suggestion, or motivation to make the particular combination that was made by the applicant." *In re Raynes* 28 USPQ2d 1630, 1632 (Fed. Clr. 1993) (citations omitted; emphasis added). Thus, applicant submits that the Examiner's motivation to modify the references to arrive at the presently claimed invention derives from hindsight based on applicant's disclosure, as no "showing" has been made that the prior art suggests the desirability of the claimed combination and this interpretation of the knowledge in the art could be made only by hindsight.

Furthermore, the proposed combination of the Weijand, Nebragic, and Wold devices by the Examiner would significantly change the principle of operation of the devices taught in Weijand and Nebragic. For example, the Nebragic power converter would have to be significantly altered to incorporate the step-up transformer taught in Wold. The Weijand device would also have to be significantly altered to incorporate the Nebragic power converter. "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)." M.P.E.P. § 2143.02. Hence, applicant respectfully asserts based on the foregoing response that claim 18 is not obvious in light of Weijand, Nebragic, and Wold and that claim 18 is in condition for allowance. Likewise, claims 19-20 which depend directly or indirectly from independent claim 18 (allowable based on the aforementioned arguments) should also be allowable. Acknowledgement of the same is earnestly solicited.

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For the foregoing reasons, the present application should be in condition for allowance. Accordingly, favorable reconsideration of the application in light of these remarks is courteously solicited. The Examiner is invited to telephone the undersigned, Bryant R. Gold, at his convenience should any issues remain after consideration and entry of this response, in order to permit early resolution of the same.

Respectfully Submitted,



Bryant R. Gold
Reg. No. 29,715
Attorney for Applicants

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Date

Please direct all written and telephone inquiries to:
Bryant R. Gold
Advanced Bionics Corporation
25129 Rye Canyon Road
Valencia, California 91355
Telephone: (661) 362-1771 or (760) 788-8138
Fax: (661) 362-1507